

Remarks

Claims 1-22 are pending. No amendments are presented with this Response. Claims 1-22 remain pending.

Applicants request reconsideration and allowance of the above-cited application in view of the following remarks.

Claim Rejections - 35 U.S.C. § 103

Claims 1-4, 9-21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Taylor et al. (U.S. Pat. No. 3,578,772) in view of Yamamoto et al. (EP 0404957).

Applicants traverse this rejection because the Taylor et al. reference does not support a *prima facie* case of obviousness of Applicants' claimed invention and, moreover, the Office Action uses impermissible hindsight in combining the fermenting a dough in carbon dioxide disclosure of Yamamoto et al. with the Taylor et al. reference to arrive at Applicants' claimed invention.

Independent claim 1 recites:

A frozen dough product, comprising an unproofed frozen dough product comprising a leavening agent, wherein said dough product is contained in an atmosphere enriched in a carbon dioxide concentration in an amount sufficient to enhance proofing of the frozen dough product as compared to a like frozen dough product not contained in an atmosphere enriched in carbon dioxide (emphasis added).

The present invention provides an improved final baked dough product. It is believed that this invention improves the quality of the dough product via retention of carbon dioxide in the frozen dough during frozen storage (See the specification at page 5, lines 8 and 9). At the point of frozen storage, carbon dioxide is dissolved in the dough due to, e.g., pre-mature or preliminary leavening (See the specification at page 5, lines 1-4). In conventional systems wherein the frozen dough is stored in ordinary atmosphere, carbon dioxide is released into the atmosphere and a new equilibrium is established with the atmosphere, which is mainly nitrogen (See the specification at page 5, lines 9-11). The net result is a significant decrease in the amount of carbon dioxide dissolved in the

dough product (See the specification at page 5, lines 11 and 12). When the frozen dough product is removed from frozen storage, some of the carbon dioxide that is produced by the leavening agent must be used to re-saturate the dough, i.e., to replenish that carbon dioxide that was lost from the dissolved phase to the atmosphere during frozen storage (See the specification at page 5, lines 12-15). In the present invention, containing the frozen dough in a carbon dioxide atmosphere prevents this loss of carbon dioxide (See the specification at page 5, lines 15 and 16). Thus, as carbon dioxide is produced after removal from frozen storage, it can start to expand the dough relatively sooner and therefore reduce the time it takes for the dough to proof (See the specification at page 5, lines 17-19).

In considering the primary reference as a whole, Taylor et al. specifically relates to an apparatus for making a package out of paraffin-coated sheet material (See Taylor et al. at the Abstract and col. 1, lines 6-10 and 34-39). The package is used to seal uncooked dough (See Taylor et al. at col. 3, lines 40-46).

Taylor et al. describe their process of packaging as taking a general, uncooked dough and placing the uncooked dough between two sheets of paraffin-coated sheets and then fusing the sheets together (See Taylor et al. at col. 3, lines 40-50). Taylor et al. state that:

The described operation of the apparatus 10 produces a suitably uniform product ... and completely seals the dough at a high quality condition in a frozen state and provides the best environment for defrosting and proofing before cooking (emphasis added) (See Taylor et al. at col. 4, lines 51-57).

The secondary reference, Yamamoto et al., discloses that a bread dough can be fermented in a carbon dioxide-rich atmosphere and that such fermentation can be carried out in a vat containing a carbon dioxide feeding means (See Yamamoto et al. at the Abstract).

According to the Office Action:

[I]t would have been obvious to modify the controlled atmosphere environment of Taylor and include 100% carbon dioxide environment...since Taylor teaches proofing is completed in the package either before or after thawing ... and Yamamoto teaches that proofing

dough with 100% carbon dioxide atmosphere will provide a better volume and flavor as compared to non-carbon dioxide enriched atmospheres. One would have been substituting one conventional controlled atmosphere for another for the same purpose: proofing dough in a controlled atmosphere....

Applicants respectfully disagree that it would have been obvious to modify the atmosphere inside of the package disclosed in the Taylor et al. reference. As shown above, the Taylor et al. reference expressly instructs the skilled worker that the environment inside their package is “the best environment for defrosting and proofing.” Such a statement is the antithesis of a motivation or suggestion to modify the atmosphere inside the Taylor et al. package. Therefore, the Taylor et al. reference simply does not support a *prima facie* case of obviousness with respect to the claimed invention.

Moreover, Applicants respectfully disagree that it would have been obvious to modify the environment inside of the package disclosed in the Taylor et al. reference such that it is enriched in carbon dioxide simply because Yamamoto et al. disclose fermenting a dough in the presence of supplied carbon dioxide. As discussed above, Yamamoto et al. only disclose a vat supplied with carbon dioxide for fermenting the dough. Taylor et al. or Yamamoto et al., alone or in combination, do not teach, motivate, or suggest the technical leap of modifying the atmosphere in the Taylor et al. package to be enriched in carbon dioxide. Such a conclusion can only be reached based on hindsight of Applicants’ patent application, not the cited references, which is improper.

In conclusion, the Office Action fails to establish a *prima facie* case of obviousness of claim 1 over Taylor et al. in view of Yamamoto et al.

Because each of claims 2-4 and 9-21 depend from claim 1, the Office Action similarly fails to establish a *prima facie* case of obviousness of claims 2-4 and 9-21 over Taylor et al. in view of Yamamoto et al.

Accordingly, Applicants respectfully request that the rejection of claims 1-4, 9-21 under 35 U.S.C. § 103 as being unpatentable over Taylor et al. in view of Yamamoto et al. be withdrawn.

Claims 5-8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Taylor et al. in view of Yamamoto et al., as applied to claims 1-4, 10, 11, and 13-21 above, further in view of Lonergan et al. (U.S. Pat. No. 5,672,369).

Claims 5-8 depend from claim 1. As discussed above, the Office Action fails to establish a *prima facie* case of obviousness of claim 1 over Taylor et al. in view of Yamamoto et al. The Lonergan et al. reference fails to cure the deficiencies of the rejection of claim 1 over Taylor et al. in view of Yamamoto et al.

As discussed above, present claim 1 recites an “unproofed frozen dough.” In contrast, as the Office Action acknowledges, the Lonergan et al. reference teaches a pre-proofed dough (See paragraph 3 on page 2 of the Office Action mailed September 11, 2003. See also, Lonergan et al. at, e.g., the Abstract). That is, in the event that the dough product described in the Lonergan et al. reference is frozen, it is pre-proofed prior to freezing. Lonergan et al. therefore teach away from claim 1.

The Lonergan et al. reference thus fails to support a *prima facie* case of obviousness with respect to claim 1.

Because claims 5-8 depend from claim 1, the Office Action fails to establish a *prima facie* case of obviousness of claims 5-8 over Taylor et al. in view of Yamamoto et al., as applied to claims 1-4, 10, 11, and 13-21 above, further in view of Lonergan et al.

Accordingly, Applicants respectfully request that the rejection of claims 5-8 under 35 U.S.C. § 103 as being unpatentable over Taylor et al. in view of Yamamoto et al., as applied to claims 1-4, 10, 11, and 13-21 above, further in view of Lonergan et al. be withdrawn.

Claim 22 stands rejected under 35 U.S.C. § 103 as being unpatentable over Taylor et al. in view of Yamamoto et al. and Henika et al. (U.S. Pat. No. 3,615,680).

Claim 22 depends from claim 1. The Office Action similarly relies on Taylor et al. in view of Yamamoto et al. as applied to claim 1 and discussed above. As discussed above, the Office Action fails to establish a *prima facie* case of obviousness of claim 1 over Taylor et al. in view of Yamamoto et al. The Henika et al. reference fails to cure the deficiencies of the rejection of claim 1 over Taylor et al. in view of Yamamoto et al.

Indeed, Henika et al. was merely relied on to show that proofing can cause a dough to double in volume.

Therefore, the Henika et al. reference fails to support a *prima facie* case of obviousness with respect to claim 1.

Because claim 22 depends from claim 1, the Office Action fails to establish a *prima facie* case of obviousness of claim 22 over Taylor et al. in view of Yamamoto et al. and Henika et al.

Accordingly, Applicants respectfully request that the rejection of claim 22 under 35 U.S.C. § 103 as being unpatentable over Taylor et al. in view of Yamamoto et al. and Henika et al. be withdrawn.

The Examiner is invited to contact Applicants' undersigned Attorney, at the Examiner's convenience, should the Examiner have any questions regarding this communication or the present patent application.

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